Listing of Claims

1.   (Currently Amended) A method of furnishing illegal mobile equipment user information, comprising:

obtaining ~~illegal~~ mobile equipment user information through a service grade inquiry at <u>a</u> security furnishing system that received a request for service grade of mobile equipment from a switching system<u>, said obtaining including receiving, in the security furnishing system, a mobile application part (MAP) protocol message that includes International Mobile Station Identity (IMSI) information and Mobile Subscriber Integrated Service Digital Network (MSISDN) information</u>;

<u>searching a database in response to the request to determine that the mobile equipment user information is illegal</u>;

storing the <u>IMSI and MSISDN</u> information <u>received in the MAP protocol message corresponding to the mobile equipment user information</u>; and

reporting the illegal mobile equipment user information to a system operator.

2.   (Currently Amended) The method of claim 1, wherein <u>the MAP protocol message is received with</u> ~~the step of storing the information comprises: receiving an~~ International Mobile Equipment Identity (IMEI) ~~request message including mobile equipment user~~ information ~~from the switching system;~~<u>, and wherein the mobile equipment user information is determined to be illegal by searching the database for the IMEI information</u>

~~inquiring of a service-grade of the IMEI by retrieving user information database;~~

~~and when the service grade is classified as an illegal IMEI, storing the mobile equipment user~~

~~information in the user information database.~~

3.   (Currently Amended) The method of claim 1, wherein the <u>security furnishing</u>

<u>system includes</u> ~~illegal mobile equipment user information is stored in the user information~~

~~database of~~ an Equipment Identity Register (EIR) or an Authentication Center (AUC) furnishing

security service.

4.   (Canceled)

5.   (Currently Amended) The method of claim 2, wherein the <u>method further</u>

<u>includes storing in the</u> ~~user information~~ database ~~stores~~ the IMEI <u>information</u>, a type of mobile

equipment, a physical status of mobile equipment, a service grade of mobile equipment, a first

registration time of mobile equipment, an access IMSI, an access MSISDN, a node information,

and access time information.

6.   (Original) The method of claim 2, further comprising:

when the service grade is classified as an illegal IMEI, recording the mobile

equipment user information in an illegal mobile equipment user file.

3

7.   (Original) The method of claim 2, further comprising:

reporting the mobile equipment user information to an operator through an administration system which administrates the switching system.

8.   (Currently Amended) A ~~The~~ method ~~of claim 2, further comprising~~ of furnishing illegal mobile equipment user information, comprising:

obtaining mobile equipment user information through a service grade inquiry at a security furnishing system, said obtaining including receiving, in the security furnishing system, a mobile application part (MAP) protocol message that includes International Mobile Station Identity (IMSI) information and Mobile Subscriber Integrated Service Digital Network (MSISDN) information;

searching a database in response to the request to determine that the mobile equipment user information is illegal;

storing the IMSI and MSISDN information received in the MAP protocol message corresponding to the mobile equipment user information; and

reporting the illegal mobile equipment user information to an operator through a Customer Service Billing System (CSBS) which manages a mobile communication network service subscriber.

9.   (Currently Amended) The method of claim 8, wherein ~~the step of~~ reporting the

<u>illegal equipment user</u> information to an operator through the CSBS comprises:

generating an illegal mobile equipment access alarm message using the mobile

equipment user information; and

transmitting the illegal mobile equipment access alarm message to the CSBS.

10.   (Original) The method of claim 9, wherein the illegal mobile equipment access

alarm message comprises an IMEI, a type of mobile equipment, a physical status of mobile

equipment, a service grade of mobile equipment, a first registration time of mobile equipment,

an access IMSI, an access MSISDN, node information, and access time information.

11.   (Currently Amended) The method of claim 9, wherein ~~the step of~~ reporting the

information to the operator through the CSBS further comprises:

when transmission of the illegal mobile equipment access alarm message fails,

transmitting illegal mobile equipment access alarm file to the CSBS.

12.   (Original) The method of claim 11, wherein the illegal mobile equipment access

alarm file includes an IMEI, a type of mobile equipment, a physical status of mobile equipment,

a service grade of mobile equipment, a first registration time of mobile equipment, an access

IMSI, an access MSISDN, node information, and access time information.

13.   (Currently Amended) The method of claim 11, wherein when transmission of the illegal mobile equipment access alarm message fails, ~~the step of~~ transmitting the illegal mobile equipment access alarm file to the CSBS comprises:

generating the illegal mobile equipment access alarm file using the mobile equipment user information;

monitoring whether or not message transmission and reception with the CSBS is possible; and

transmitting the illegal mobile equipment access alarm file when message transmission and reception is possible.

14.   (Currently Amended) The method of claim 13, wherein ~~the step of~~ transmitting the illegal mobile equipment access alarm file when message transmission and reception is possible comprises:

transmitting an illegal mobile equipment access alarm report message including a high-rank system identification information to the CSBS;

receiving an illegal mobile equipment access alarm report ready message, including file transmission information, from the CSBS;

transmitting the illegal mobile equipment access alarm file to the CSBS using the file transmission information; and

when transmission of the illegal mobile equipment access alarm file is completed,

transmitting an illegal mobile equipment access alarm report completion message to the CSBS

and receiving illegal mobile equipment access alarm report response message from the CSBS.

15.   (Original) The method of claim 14, wherein the file transmission information

comprises: account for file transmission, password for account, and directory where the file will

be stored.

16.   (Currently Amended) A method of furnishing illegal mobile equipment user

information, comprising:

transmitting an IMEI request message including an IMEI and user information of

mobile equipment from a switching system to a security furnishing system, the mobile

equipment user information including IMEI information, International Mobile Station Identity

(IMSI) information and Mobile Subscriber Integrated Service Digital Network (MSISDN)

information;

inquiring of a service grade of the IMEI by searching a ~~retrieving~~ user information

database at the security furnishing system; ~~means and~~

transmitting an IMEI response message indicative of the service grade to the

switching system; and

when the service grade is classified as an illegal IMEI, storing the <u>IMSI and</u>

<u>MSISDN included in the IMEI request message</u> ~~mobile equipment user information~~ in the user

information database and reporting <u>a notification message</u> ~~the mobile equipment user~~

~~information~~ to <u>an</u> operator.

17.   (Currently Amended) The method of claim 16, wherein the ~~mobile equipment~~

~~user information is stored in a~~ user information database <u>is accessible by</u> ~~of~~ an Equipment

Identity Register (EIR) or an Authentication Center (AUC) furnishing security service.

18.   (Canceled)

19.   (Currently Amended) The method of claim 16, wherein the user information

database stores <u>the</u> ~~an~~ IMEI[[,]] <u>and the following related information:</u> a type of mobile

equipment, a physical status of mobile equipment, a service grade of mobile equipment, a first

registration time of mobile equipment, an access IMSI, an access MSISDN, node information,

and access time information.

20.   (Currently Amended) The method of claim 16, ~~further comprising: reporting the~~

<u>wherein the notification message is reported to the</u> ~~mobile equipment user information to an~~

operator through an administration system which administrates the switching system.

21.   (Currently Amended) A ~~The~~ method of <u>furnishing illegal mobile equipment user</u> <u>information</u> ~~claim 16, further~~ comprising:

<u>transmitting an IMEI request message including an IMEI and user information of</u> <u>mobile equipment from a switching system to a security furnishing system, the mobile</u> <u>equipment user information including IMEI information, International Mobile Station Identity</u> <u>(IMSI) information and Mobile Subscriber Integrated Service Digital Network (MSISDN)</u> <u>information;</u>

<u>inquiring of a service grade of the IMEI by searching a user information database</u> <u>at the security furnishing system;</u>

<u>transmitting an IMEI response message indicative of the service grade to the</u> <u>switching system; and</u>

<u>when the service grade is classified as an illegal IMEI, storing the IMSI and</u> <u>MSISDN included in the IMEI request message in the user information database and sending an</u> <u>access alarm message</u> ~~reporting the mobile equipment user information~~ to an operator through a <u>Customer Service Billing System (CSBS)</u> managing mobile communication network service subscriber.

22.   (Canceled)

23.   (Currently Amended) The method of claim 21 [[22]], wherein the ~~illegal mobile equipment~~ access alarm message comprises ~~an~~ the IMEI information, a type of mobile equipment, a physical status of mobile equipment, a service grade of mobile equipment, a first registration time of mobile equipment, an access IMSI, an access MSISDN, node information, and access time information.

24.   (Currently Amended) The method of claim 22, wherein, ~~the step of reporting the information to~~ the operator ~~through the CSBS further comprises~~: when transmission of the ~~illegal mobile equipment~~ access alarm message fails, transmitting an illegal mobile equipment access alarm file to the CSBS.

25.   (Currently Amended) The method of claim 24, wherein the illegal mobile equipment access alarm file includes the ~~an~~ IMEI information, a type of mobile equipment, a physical status of mobile equipment, a service grade of mobile equipment, a first registration time of mobile equipment, an access IMSI, an access MSISDN, node information, and access time information.

26.   (Currently Amended) The method of claim 24, wherein when transmission of the ~~illegal mobile equipment~~ access alarm message fails, the method further ~~wherein the step of transmitting the illegal mobile equipment access alarm file to the CSBS~~ comprises:

generating the ~~illegal mobile equipment access~~ alarm file <u>based on</u> ~~using~~ the mobile equipment user information;

monitoring whether or not message transmission and reception with the CSBS is possible; and

transmitting the ~~illegal mobile equipment~~ access alarm file in a case where message transmission and reception is possible.

27.   (Currently Amended) The method of claim 26, wherein ~~the step of~~ transmitting the ~~illegal mobile equipment~~ access alarm file when message transmission and reception is possible comprises:

transmitting an illegal mobile equipment access alarm report message including a high rank system identification information to the CSBS;

receiving an illegal mobile equipment access alarm report ready message, including file transmission information, from the CSBS;

transmitting the illegal mobile equipment access alarm file to the CSBS using the file transmission information; and

when transmission of the illegal mobile equipment access alarm file is completed, transmitting an illegal mobile equipment access alarm report completion message to the CSBS and receiving illegal mobile equipment access alarm report response message from the CSBS.

11

28.   (Original) The method of claim 27, wherein the file transmission information

comprises: account for file transmission, password for account, and directory where file is

stored.